

WHAT IS CLAIMED IS:

- 5 1. A network usage recording system comprising:  
A collector including:  
an encapsulator for reading a plurality of network data records  
from a network data source and converting the network  
data records to a plurality of normalized metered events;  
an aggregator for processing the normalized metered events to  
create aggregated normalized metered events; and  
data storage system, wherein the aggregator periodically stores  
the aggregated normalized metered events in the data  
storage system.
- 15 2. The system of claim 1, wherein the aggregator includes volatile memory  
for temporary storage of the aggregated normalized metered events.
- 20 3. The system of claim 1, further comprising a configuration server in  
communication with the encapsulator, the aggregator and the data storage  
system, wherein the configuration server stores configuration data for the  
encapsulator, the aggregator, and the data storage system.
- 25 4. The system of claim 3, wherein the configuration server communicates  
the configuration data to the encapsulator, the aggregator and the data storage  
system at start-up.
- 30 5. The system of claim 3, further comprising a collector shell, wherein the  
configuration server communicates with the encapsulator, the aggregator and the  
data storage system via the collector shell.
6. The system of claim 1, further comprising a query manager in

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communication with the data storage system for querying the data storage system.

7. The system of claim 6, wherein the query manager is in communication with the data storage system via the aggregator.

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8. The system of claim 1, further comprising a statistics log, wherein the statistics log is in communication with the encapsulator, the aggregator and the data storage system for logging statistical data.

10 9. The system of claim 8, further comprising a collector operator, wherein the collector operator communicates with the encapsulator, the aggregator, the data storage system and the statistics log to provide administrative access.

10 10. The system of claim 1, wherein the encapsulator further includes a parser  
15 for parsing network data received from the network data source.

11. The system 1, wherein the collector is configured as a network data collector.

20 12. The system of claim 1, wherein the collector is configured as a correlator collector.

13. The system of claim 1, wherein the collector is configured to perform additional levels of data reduction and consolidation of data stored in other  
25 collectors.

14. A network usage recording system comprising:  
a collector system including:  
a collector shell;  
30 a query manager;  
an encapsulator;

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an aggregator; and  
a data storage system.

15. The system of claim 14, further comprising a configuration server in  
5 communication with the encapsulator, the aggregator and the data storage  
system.

16. The system of claim 15, wherein the configuration server communicates  
10 with the encapsulator, the aggregator and the data storage system via the  
collector shell.

17. A method for recording network usage comprising the steps of:  
defining a collector including an encapsulator, an aggregator and a data  
storage system;  
15 operating the encapsulator to read a plurality of network data records  
from a network data source and convert the network data records  
to a plurality of normalized metered events;  
aggregating the plurality of normalized metered events to create a  
plurality of aggregated normalized metered events; and  
20 storing the aggregated normalized metered events in the data storage  
system at periodic intervals.

18. The method of claim 17, further comprising the steps of defining the  
aggregator to include volatile memory and storing the aggregated normalized  
25 metered events temporarily in the volatile memory.

19. The method of claim 17, further comprising the step of defining a  
configuration server in communication with the encapsulator, the aggregator and  
the data storage system, and storing configuration data for the encapsulator, the  
30 aggregator and the data storage system in the configuration server.

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20. The method of claim 19, further comprising the step of transferring the configuration data to the encapsulator, the aggregator and the data storage system at start-up.
- 5 21. The method of claim 17, further comprising the step of defining a query manager in communication with the data storage system for managing queries of the data storage system.
- 10 22. The method of claim 17, further comprising the step of defining a statistics log in communication with the encapsulator, the aggregator and the data storage system, and collecting statistics associated with the encapsulator, the aggregator and the data storage system in the statistics log.
- 15 23. The method of claim 17, further comprising the step of parsing the network data records from the usage data source read by the encapsulator.
24. A computer readable medium containing instructions for controlling a computer system to perform a method for recording network usage comprising the steps of:
- 20 defining a collector including an encapsulator, an aggregator and a data storage system;
- operating the encapsulator to read a plurality of network data records from a network data source and convert the network data records to a plurality of normalized metered events;
- 25 aggregating the plurality of normalized metered events to create a plurality of aggregated normalized metered events; and
- storing the aggregated normalized metered events in the data storage system at periodic intervals.

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